

Response to Amendment

Applicants' amendment filed on June 29, 2009 has been entered and forwarded to the examiner on September 03, 2009.

Therefore Claims 3-11, 14-27 and 29-35 as recited in the amendment are currently pending in the Application.

Claims 1-2, 12-13, and 23-24 and 28 were cancelled.

Information Disclosure Statement

To date no IDS has been filed in this case.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

Claims 33-35, 3-11, 14 -22 25-27 and 29-32 (33-35) are rejected under 35 U.S.C. 103(a) as being obvious over Mamiya et al. (U.S. Patent No. 5,764,322, herein after Mamiya) in view of AAPR (Applicants' applied Prior Art as seen at least from drawings figs. 1A-B and pages 1-4, etc.). (for response to Applicants' arguments- see section below).

With respect to claims 33 to 35, Mamiya describes a display assembly comprising:

a backlight device (Mamiya fig. 14, etc., col. 8 lines 20-25) a light reflecting film; (Mamiya fig. 14., etc. # 116) and a reflective-type display (C1.34- microstructure) comprising at least one pixel (Mamiya fig. 14, col. 7 lines 35-40, col. 10 line 35).

Mamiya does not specifically mention a light conducting spacer.

However AAPR figs. 1A-B and page 7 lines 4 to 12, etc. shows a light conducting spacer to maintain the distance between the top and bottom layers and yet are small enough to be indiscernible to a user, particularly when they are in a liquid.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include AAPR's spacer in Mamiya's device. The motivation for the above inclusion is to maintain the distance between the top and bottom layers and yet are small enough to be indiscernible to a user, particularly when they are in a liquid. (AAPR page 7).

The remaining limitations are :

The Limitation " conducting light through said reflective-type display from said backlight device" and "wherein said light reflecting film reflects light conducted by said light conducting spacer back to said reflective -type display" and "wherein said light reflecting film reflects light conducted by said light conducting spacer back to said reflective -type display to uniformly distribute light across said reflective -type display" and " reflective type display concentrates light toward said light conducting spacer to increase a brightness of said reflective display" these limitations recite the manner in which the claimed apparatus is intended to be employed.

It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ 2d 1647 (1987)*.

wherein said reflective-type display is located between said backlight device and said light reflecting film. (cl. 34- reflective microstructure) (AAPR figs. 1A, Mamiya figs.) and (Cl. 35) -a brightness enhancing film (BEF) located between said backlight device and said reflective-type display. (Mamiya co. 9 lines 10-39) and wherein said light reflecting

film reflects light conducted by said light conducting spacer back to said reflective -type display. (see above- intended to be employed discussion).

Also in claim 34, "wherein said light reflecting film reflects light conducted by said light conducting spacer back to said reflective -type display to uniformly distribute light across said reflective -type display." (see above- intended to be employed discussion).

Further in Claim 35, "Wherein said reflecting film reflects light conducted by said light conducting spacer back to said reflective -type display" and " reflective type display concentrates light toward said light conducting spacer to increase a brightness of said reflective display" (see above- intended to be employed discussion.).

After full consideration, these limitations cannot be given patentable weight.

With respect to claims 3-4,14-15 and 26 describe the display assembly of Claim 1, wherein said backlight device is an electro-luminescent (EL) light device, LED (col. 10 lines 45-46, also well known (Hirakata col .3 lines 1 7-20, etc) to use LED in computers, hand held devices , etc.).

With respect to claims 5 and 16 describe the display assembly of Claim 1, wherein said backlight device is a cold cathode fluorescent tube (CCFT).light device. (Mamiya col. 10 lines 45-46).

With respect to claims 6 and 17 describe the display assembly of Claim 1, further comprising a brightness enhancing film (BEF) disposed between said backlight device and said bottom surface of said reflective display and for directing light toward said light guide. (Col. 9 lines 10-39).

The recitation, "wherein a microstructure on a bottom of said BEF directs light toward said light conducting spacer by reflecting light away from at least one portion of said light reflective- type display wherein conducting ion is devoid of said light conducting spacer".

The Limitation, "wherein a microstructure on a bottom of said BEF directs light toward said light conducting spacer by reflecting light away from at least one portion of said light reflective- type display wherein said portion is devoid of said light conducting spacer" recite the manner in which the claimed apparatus is intended to be employed.

It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987).

After full consideration, these limitations cannot be given patentable weight

With respect to claims 7,8, 29, 18, 19,30 and 31 describes the display assembly of Claim 1., wherein said. reflective display is an electronic ink display and an electronic paper display. The limitations the reflective display is used as a electronic ink display and electronic paper display, these limitations recite the manner in which the claimed apparatus is intended to be employed.

It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ 2d 1647 (1987)*.

After full consideration, these limitations cannot be given patentable weight

With respect to claim 10 Mamiya describes the display assembly of Claim 1, wherein said light guide comprises a plurality of said light guides which enclose an area of said reflective display. (Mamiya col. 7 lines 21-25, AApA figs. 1 a-b).

With respect to claim 11 describes the display assembly of Claim 10, wherein said plurality of said light guides enclose a sub-pixel of said reflective display. (Mamiya Figure 14, col. 7 lines 35-40, col. 10 line 35).

With respect to claim 21 describes the display assembly of Claim 1, wherein said light guide comprises a plurality of said light guides which enclose an area of said reflective display. (Mamiya col. 1 lines 50-55, AAPA figs. 1a-b).

With respect to claim 22 describes the display assembly Claim 12, wherein said plurality of said light guides enclose a sub-pixel of said reflective display. (Mamiya Figure 14, col. 7 lines 35-40).

With respect to claim 25 Mamiya describes the display assembly of Claim 23, wherein said backlight device is an electro-luminescent (EL) light device. (col. 10 lines 45-46, also well known (Hirakata col .3 lines 1 7-20, etc) to use LED in computers, hand held devices , etc.).

With respect to claim 27 Mamiya describes the display assembly of Claim 23, wherein said backlight device is a cold cathode fluorescent tube (CCFT) light device. (col. 10 lines 45-46).

With respect to claim 28 describes the display assembly of Claim 23, further comprising a brightness enhancing film (BEF) disposed above said backlight device and below said reflective display for directing light toward said plurality of light guides. (Col. 9 lines 10-39).

With respect to claim 32 describes the display assembly of Claim 23, wherein said plurality of light guides enclose a sub-pixel area of said reflective display. (Mamiya Figure 14, col. 7 lines 35-40).

Response to Arguments

13. Applicant's arguments filed June 29, 2009 have been fully considered but they are not persuasive for the following reasons :

Applicants' argument and conclusion that the glass ball spacer (i.e. light conducting spacer) is not allegedly capable of conducting light through a reflective-type display from a backlight device, without providing any basis for their conclusion can only be responded to by restating that mere speculation/ conclusion with any stated basis is Only mere speculation and therefore not persuasive.

The response previously stated has been reproduced below for ready reference.

In response to applicant's argument that allegedly AAPA fails to teach or suggest a light conducting spacer conducting light through a reflective-type display from a backlight device, it is readily apparent that a glass ball spacer (i.e. light conducting spacer) is also capable of conducting light through a reflective-type display from a backlight device.

Further, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

16. Here in the recited function "a light conducting spacer conducting light through a reflective-type display from a backlight device" DOES NOT result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Therefore none of the Applied need to disclose/suggest the limitations for which patentable weight cannot be given.

It is noted that Mamiya's polarizing plate will not only allow light to pass through it as stated by applicants, but also allow light to be reflected.

Applicants' second contention that the recitation " conducting light through a reflective-type display form a back-light display is allegedly is structural characteristic " for example light conducting spacer, as claimed. For example, a light conducting spacer that conducts light through a first component is structurally different from a light conducting spacer that conducts light through a second component even though they are both capable of conducting light. Accordingly, a mere disclosure of glass

Art Unit: 2814

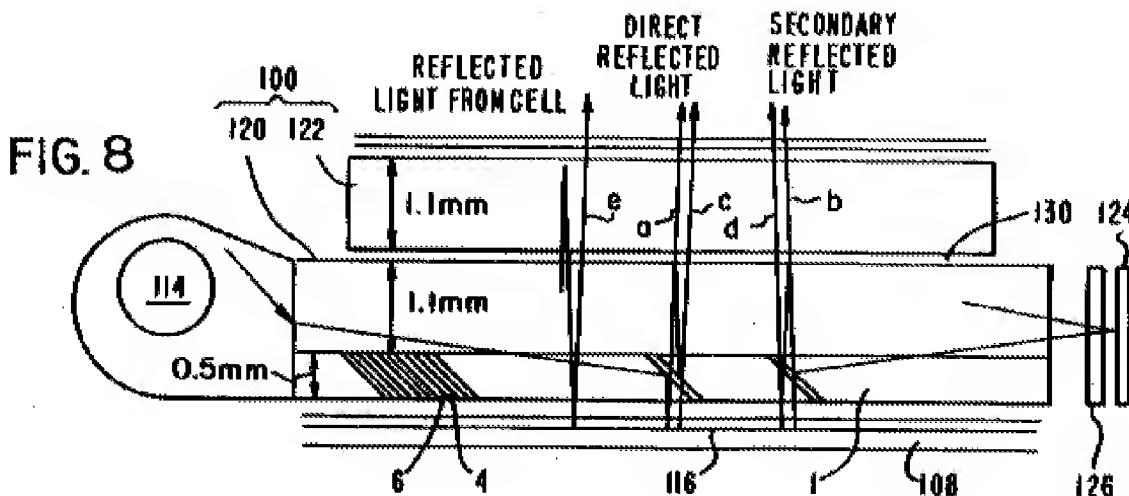
balls, as disclosed by AAPA, does not teach or suggest a light conducting spacer conducting light through a reflective-type display from a backlight device, as claimed, is a confused argument.

Applicants' are confusing the properties of first element (glass ball spacers) and the light reflecting film.

The rejection states that the first element namely the glass ball spacers is capable of conducting light through a reflective-type display from a backlight device because it is a well known physical property of glass and any structure made from it (ball spacer) to conduct light through it.

In Fact the Examiner respectively request the Applicants' and Attorney Amir Tabrrok to kindly point out any instances of glass or structure made from glass (ball spacers) does not conduct light through it.

Applicants' contend that polarizing plate layer 116 of figure 14 cannot be reasonable interpreted by one skilled in the art as being comparable or interchangeable with a reflecting film. Is not persuasive because the same layer 116 in figure 8 of Mimiya shows :



It is clear from the above that layer 116 (i.e. the polarizing plate layer) reflects at least several light elements marked a to e.

Therefore Claim 33 is Finally rejected.

Applicants' arguments that the recitation " conducting light through a reflective- type display form a back-light display is allegedly is structural characteristic " for example light conducting spacer, as claimed. For example, a light conducting spacer that conducts light through a first component is structurally different from a light conducting spacer that conducts light through a second component even though

they are both capable of conducting light as not persuasive for reasons stated under SECOND Contention above and incorporated here by reference for sake of brevity.

Mamiya teaches light reflecting film for reasons stated above.

Applicants' last contention that because allegedly AAPA teaches its glass as thick, rigid and requiring precise alignment and prevents manufacture of thinner curved or flexible display assembly have nothing to do with the conducting or reflective properties at issue.

In fact contrary to Applicants' arguments all of the above mentioned properties like precise alignment, Thickness, rigidity etc. will ensure optimum conductivity and reflection and therefore one would be motivated to combine the teachings of AAPA and mamiya.

Applicants' essentially repeat the same above arguments with respect to claims 34 and 35, which arguments were not found to be persuasive above and are not persuasive here.

As stated in the rejection of claim 34above , "wherein said light reflecting film reflects light conducted by said light conducting spacer back to said reflective -type display to uniformly distribute light across said reflective -type display." (see above- intended to be employed discussion).

Further in Claim 35, "Wherein said reflecting film reflects light conducted by said light conducting spacer back to said reflective -type display" and " reflective type display concentrates light toward said light conducting spacer to increase a brightness of said reflective display" (see above- intended to be employed discussion.).

After full consideration, these limitations cannot be given patentable weight.

As stated in the rejection one of ordinary skill in the art would understand from mamiya col. 9 lines 10-35 that Mamiya discloses a brightness enhancing film (BEF) located between said backlight device and said reflective-type display. (Mamiya co. 9 lines 10-39)

Then, the light propagating through the light guiding body 104 includes a large quantity of P-polarized light relatively, and the P-polarized light reaches the other end of the light guiding body 104, passes through the $\lambda/4$ plate 126, is reflected by the reflecting plate 124, again passes through the $\lambda/4$ plate 126, and returns into the light guiding body 104. At this time, since the light passes through the $\lambda/4$ plate 126 twice, it has been converted from P-polarized light into S-polarized light. The light converted to the S-polarized light is refracted and incident on the light guiding sheet 1 from the light guiding body 104, and then the light is reflected at the boundary surface of each film layer and emitted toward the glass substrate (light path, b, of FIG. 6).

Further, the light, which has reached the glass substrate but reflected by the glass substrate, again travels through the light guiding body 104 and is reflected toward the glass substrate by the reflecting plate 168 because, unlike the conventional back light, the back light of this embodiment does not have the diffusing plate and the prism sheet (light path, c, of FIG. 6).

Thus, since instead of the dot pattern the light guiding sheet 1 where each stacked film is inclined at angle of 45° relative to the light guiding body 104 has been attached to the back surface of the light guiding body of the conventional back light and also the $\lambda/4$ plate 126 and the reflecting plate 124 have been attached to the end surface of the light guiding body 104, the quantity of the light that is vertically emitted from the surface of the light guiding body 104 can be increased and the light-guiding efficiency of the light guiding body portion of the back light can be enhanced. Also, the emission angle of the light from the liquid crystal display panel can be controlled so that a characteristic of visual angle is improved.

Therefore claims 33-35 are finally rejected.

With respect to Claims 4,15 and 26 both AAPA 9 page 1 line 10 thru' page 4, etc. and Mamiya disclose display devise, hand held computers, palm held devices all of which include the well known LEDs.

Applicants' arguments that claims 7, 8,18-19 and 29-30 are not persuasive for failure to include any basis or reason why they disagree with the rejection partially repeated below.

With respect to claims 7,8, 29, 18, 19,30 and 31 describes the display assembly of Claim 1., wherein said. reflective display is an electronic ink display and an electronic paper display. The limitations the reflective display is used as a electronic ink display and electronic paper display, these limitations recite the manner in which the claimed apparatus is intended to be employed.

It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987).

After full consideration, these limitations cannot be given patentable weight. Therefore all pending claims are Finally rejected.

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN H. RAO whose telephone number is (571)272-1718. The examiner can normally be reached on 8.30-5.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1714. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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